WHAT IS CLAIMED IS:

1. A process for the stripping of entrained and/or adsorbed hydrocarbons from particulate material, said process comprising:

contacting particles with a hydrocarbon stream;

disengaging hydrocarbons from the particles after contact with said hydrocarbon stream to produce a stream of contacted particles containing entrained or adsorbed hydrocarbons

passing the contacted particles downwardly through a plurality of sloped stripping baffles;

discharging a stripping fluid upwardly through a plurality of openings distributed over the entire sloped surface of each stripping baffle to provide at least one opening for each square foot (0.09 square meter) of the sloped surface of each baffle and stripping hydrocarbons from the particulate material;

recovering stripping fluid and stripped hydrocarbons from the stripping baffles; and

recovering stripped particles from the stripping baffles.

2. The process of claim 1 wherein the openings have a maximum dimension of 1.5 inches (3.8 cm) or less and the openings are located within 6 inches (15.2 cm) of the edge of any baffle.

3. The process of claim 1 wherein a lower portion of the sloped surface has a greater concentration of openings than an upper portion of the sloped surface.

4. The process of claim 1 wherein the openings are distributed to provide an essentially equal volumetric delivery of stripping fluid over the sloped surface.

5. The process of claim 1 wherein the openings are distributed to provide a greater volume delivery of stripping fluid to the lower portion of the sloped surface than to the upper portion of the sloped surface.

6. The process of claim 1 wherein subdivision of any portion of the sloped surface into a circular area of at least 1 ft^2 (0.09 m^2) will surround at least a portion of at least one opening in that area.

7. The process of claim 1 wherein each perforation on the sloped surface is within at least 8 inches (20.3 cm) of an adjacent perforation on the sloped surface.

8. The process of claim 1 wherein the process contacts particles comprising fluidized catalytic cracking (FCC) catalyst with hydrocarbons comprising an FCC feed and the FCC catalyst passes to a stripping zone containing said sloped stripping baffles wherein the FCC catalyst passes counter-currently to the stripping fluid as said contacted particles.

9. The process of claim 1 wherein the flux rate through the stripper is at least 90,000 lbs/hr/ft^2 (439,380 kg/hr/m^2) of stripper area.

10. The process of claim 1 wherein the flux rate through the stripper is at least 140,000 lbs/hr/ft^2 (683,480 kg/hr/m^2) of stripper area.

11. The process of claim 1 wherein one of the sloped stripping baffles has an angle of inclination to the horizontal of 30°.

12. A process for the stripping of entrained and/or adsorbed hydrocarbons from particulate material, wherein the entrained or adsorbed hydrocarbons are from the fluidized catalytic cracking (FCC) of an FCC feed with an particulate material comprising an FCC catalyst, said process comprising:

contacting an FCC feed with FCC catalyst to provide a mixture of FCC catalyst and FCC feed and to convert the FCC feed while depositing coke on the FCC catalyst;

disengaging converted FCC feed from the FCC catalyst to produce a stream of disengaged catalyst particles containing entrained or adsorbed hydrocarbons;

passing the disengaged catalyst particle stream into a stripping zone and passing the stream of catalyst particles downwardly through a plurality of vertically sloped stripping baffles in the stripping zone;

discharging a stripping fluid upwardly through a plurality of openings distributed over the entire sloped surface of each stripping baffle to provide at least one opening for each square foot (0.09 square meter) of the sloped surface of each baffle and stripping hydrocarbons from the FCC catalyst;

recovering stripping fluid and stripped hydrocarbons that pass upwardly from the stripping baffles;

recovering stripped FCC catalyst that passes downwardly from the stripping baffles;

passing stripped FCC catalyst to a regeneration zone to remove coke from the FCC catalyst; and

returning FCC catalyst from the regeneration zone for contact with the FCC feed.

13. The process of claim 12 wherein the openings have a maximum dimension of 1.5 inches (3.8 cm) or less and openings are located within 6 inches (15.2 cm) of the edge of any baffle.

14. The process of claim 12 wherein a lower portion of the sloped surface has a greater concentration of opening than an upper portion of the sloped surface.

15. The process of claim 12 wherein the openings are distributed to provide an essentially equal volumetric delivery of stripping fluid over the sloped surface.

16. The process of claim 12 wherein the openings are distributed to provide a greater volume delivery of stripping fluid to the lower portion of the sloped surface than to the upper portion of the sloped surface.

17. The process of claim 12 wherein the flux rate through the stripper is at least 90,000 lbs/hr/ft^2 (439,380 kg/hr/m^2) of stripper area.

18. The process of claim 12 wherein the flux rate through the stripper is over 120,000 lbs/hr/ft^2 (585,840 kg/hr/m^2) of stripper area.

19. An apparatus for the stripping of entrained and/or adsorbed hydrocarbons from particulate material, said process comprising:

a stripping vessel;

at least one port defined by the stripping vessel for receiving particles that contain entrained or adsorbed hydrocarbons from the contact of the particles with a hydrocarbon stream and for withdrawing stripping fluid and stripped hydrocarbons from the stripping vessel;

a plurality of sloped stripping baffles spaced apart vertically over at least a portion of the stripping vessel height with each baffle having a sloped surface and each sloped surface having a transverse projection equal to at least one-third of the minimum transverse cross-section of the stripping vessel at that baffle location;

a plurality of openings distributed over the entire sloped surface of each stripping baffle to provide at least one opening for each square foot (0.09 square meter) of the sloped surface;

at least one fluid inlet for passing a stripping fluid to the underside of at least one stripping baffle for stripping hydrocarbons from the particulate material; and

at least one particle outlet for recovering stripped particles from the stripping baffles.

20. The apparatus of claim 19 wherein said at least one port comprises a single opening at the top of the stripping vessel for receiving particles and withdrawing stripping gas and stripping fluid.

21. The apparatus of claim 19 wherein a projection of the transverse cross-section from two adjacent sloped surfaces substantially covers the entire transverse cross-section of the stripping vessel.

22. The apparatus of claim 19 wherein at least three baffles occupy the stripping vessel and the slope of the baffles is from 30 to 45° from the horizontal.

23. The apparatus of claim 19 wherein the size of the openings does not exceed 1.5 inches (3.8 cm).

24. The apparatus of claim 19 wherein a vertical skirt extends downwardly from the bottom of the baffles.

25. The apparatus of claim 19 wherein a lower portion of the sloped surface has a greater concentration of openings than an upper portion of the sloped surface.

26. The apparatus of claim 19 wherein subdivision of any portion of the sloped surface into a circular area of at least 1 ft^2 (0.09 m^2) will surround at least a portion of at least one opening in that area.

27. The apparatus of claim 19 wherein perforations on the sloped surface are within at least 6 inches (15.2 cm) of an adjacent perforation on the sloped surface.